

REMARKS

I. Introduction

This Application has been carefully reviewed in light of the Final Office Action mailed January 11, 2007. At the time of the Office Action, Claims 1-10, 19-21, 23-35, and 38-43 were pending in this Application. Claims 1-10, 19-21, 23-35, and 38-42 were rejected. Claim 43 was not listed as rejected. No amendments to the claims are submitted. Claims 11-18, 22, 36, and 37 have been previously cancelled without prejudice or disclaimer. Applicants respectfully request reconsideration and favorable action in this case.

II. Rejections under 35 U.S.C. §103

A. Introduction.

Claims 1-10, 19-21, 23, 25-35, and 38-42 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,385,297 issued to Alan D. Rein *et al.* ("Rein"), in view of U.S. Patent 5,798,945 issued to George Benda ("Benda"). Claim 43 was not listed as rejected. Claim 24 was rejected under 35 U.S.C. §103(a) as being unpatentable over Rein, in view of Benda, and further in view of U.S. Patent 5,774,052 issued to Dennis Hamm *et al.* ("Hamm"). Applicants respectfully traverse and submit the cited art combinations, even if proper, which Applicants do not concede, do not render the claimed embodiment of the invention obvious.

B. Standard to Establish *Prima Facie* Obviousness.

In order to establish a *prima facie* case of obviousness, the references cited by the Examiner must disclose all claimed limitations. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). Furthermore, according to § 2143 of the Manual of Patent Examining Procedure, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally,

the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicants' disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

More importantly and in relation to combining teachings of prior art references, the Manual of Patent Examining Procedure ("MPEP"), Section 2141.02.VI provides:

A prior art reference must be considered in its entirety, *i.e.*, as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. (1983), *cert. denied*, 469 U.S. 851 (1984).

(emphasis original)

C. Teachings of the Rein and Benda §103 Art.

1. Teachings of Rein.

Rein is directed to "an air conditioning system, and more particularly, to a wireless communication system between the air distribution controllers and the zone temperature sensors in the zone to be controlled." (Rein, Col. 1, lines 1-5) Rein also teaches that his sensors may be powered by an AC power source: **"The power source 59 may also be a wired connection to an AC power source."** (Rein, Col. 8, lines 43-45) (emphasis added)

The Examiner has agreed, the only "event or condition" monitored by Rein's system is ambient air temperature in a room of an office building -- nothing else (hence, the Examiner's citation to Benda). Since Rein only discloses an air temperature sensor, it follows that Rein's "central receiver 66" only receives one type of condition or event signal, *i.e.*, an air temperature related telemetry signal. Thus, Rein's "central receiver 66" only receives and processes air temperature related telemetry signals. As a result, Rein's "central receiver 66" is not equipped to and does not receive or process pressure, level, and/or emission related signals.

2. Teachings of Benda.

Benda is directed to “[s]mall modules directly situated **at power outlets in buildings**, that contain at least one sensor [to] gather and report local environmental data . . . **The local modules report data back over existing building power wiring** to a central unit.” (Benda, Abstract, Lines 1-7) (emphasis added). Thus, Benda not only powers its sensors with AC building power (not batteries), but also uses the “building power wiring” to “report data back . . . to a central unit.” **Hence, Benda does not disclose or teach the use of transmitters or battery powered transmitters and/or sensors.** And Benda expressly teaches that “[i]f some remote unit 1 is to be located where communication is impossible over building power wiring, special twisted pair **wiring** 3 can be used for that remote unit.” (Benda, Col. 3, lines 9-13) (emphasis added). Therefore, it is clear that Benda teaches a completely hard-wired AC powered system, *i.e.*, AC powered sensors and reporting over building or other wiring. Benda does not teach a battery powered sensor. Benda does not teach the use of transmitters or battery powered transmitters in communication with battery powered sensors. In fact, Benda fails to teach anything in relation to transmitters.

D. The Claimed Invention is Nonobvious.

1. Rein and Benda are NOT Properly Combinable.

Benda and Rein work on completely different principles and are not properly combinable. Indeed, assuming Rein only teaches a wireless battery powered system as assumed by the Examiner (*albeit* improperly), Rein and Benda are both directed to solving the same problem, *e.g.*, **temperature monitoring/reporting in a building**, and each address the problem in different contrasting non-combinable ways. Rein appears to prefer (while not required as discussed below) to monitor and report air temperatures via a battery powered sensor and a wireless transmitter. Whereas Benda prefers to monitor and report building temperatures via an AC powered sensor and report, not via a transmitter, but back over the building AC power wiring. These are two alternative methodologies working on completely different principles to monitor and report building temperature data. Combination is not proper. One of ordinary skill

in the art would either use Rein's system or Benda's system to monitor and report temperature data in a building, not modify one system in some ways to mirror characteristics of the other system that works on a different principle. (See MPEP §2143.02.) Indeed, the "central units" of Rein and Benda are not compatible - one receiving telemetry signals and the other being hard wired via the building wiring.

2. Combination of Rein and Benda Would NOT Yield the Claimed Invention.

Assuming combination of the teachings of Rein and Benda is proper, which Applicants do not concede, the combination of the teachings would not yield the presently claimed embodiment of the invention. For example, one of ordinary skill in the art starting with Rein's building temperature monitoring and reporting system as the Examiner does, and knowing of Benda's AC powered system for monitoring and reporting building temperatures and other building conditions, and desiring to monitor temperatures plus other building conditions, would completely drop Rein's wireless temperature monitoring and reporting system and use Benda's system utilizing the building's AC power and the building's AC power wiring to report all data back to Brenda's "central logging unit 4." This is the correct conclusion because Rein expressly teaches that its sensors can be AC powered when desired, *e.g.*, when AC power is available: **"The power source 59 can also be a wired connection to an AC power source ."** (Rein, Col. 8, lines 43-45). And since Rein is directed to the comfort of workers in offices of a building, and AC power outlets and wiring are readily available in office buildings, the combination of Rein and Benda would yield an AC powered system using AC power outlets. Under this combination, Benda's wired "central logging unit 4" would be utilized to receive all data, *i.e.*, Rein's "central [temperature data] receiver 66" which is only configured to receive wireless temperature signals, would not be modified or needed.

Thus, one of ordinary skill in the art knowing of Rein's teaching to use the "AC power source 59" embodiment would, in light of Benda's exclusively AC powered system, be taught to use a AC powered system, not a wireless or wireless/AC wired combined system with the

resulting central signal processing problems at the central units. This conclusion is supported by the fact that utilizing the Benda system would only require one "central unit" and/or would not require modification of one of the disclosed "central units" of Rein and/or Benda to handle data received via telemetry **and** data received via building power lines. Consequently, Applicants respectfully submit that if Rein and Benda were combined, the proper combination would yield a fully wired, *i.e.*, AC powered system with data reporting, *e.g.*, via the AC power wiring **without** the use of the claimed battery powered transmitters and/or sensors. Withdrawal of the rejection is requested.

3. Even if Rein and Benda are Combined, Claims 1 - 10, 19 - 21, and 23 - 32 are Nonobvious over Rein/Benda.

The presently claimed embodiment of Claim 1 (and claims 2 - 10, 19 - 21, and 23- 32 dependent thereon) of the invention is directed, *inter alia*, to a battery-powered transmission system useful under conditions, *e.g.*, where an AC power source or AC power outlet is not present to monitor not just temperatures inside a plant or building (where AC power outlets are prevalent), but to monitor and report emissions, pressures, levels, **and** temperatures inside and/or outside a plant or building. Many times an AC power source and/or outlet is not available at an outside location that needs monitoring, *e.g.*, a pipe flange located outside one (1) mile from the central processing location and running power cables or twisted pairs would be expensive and require shutting down the plant -- many applications require such cables to be buried in the ground.

Claim 1 is distinguishable over the cited art because it is clearly directed to a wireless battery powered transmission/sensor system. For example, Claim 1 claims:

- . . . at least first and second detectors . . . the first detector comprising a temperature detector, and the second detector comprising a detector to detect a condition or event selected from the group consisting of a fugitive emission, a level, and a pressure; [and]
- at least two battery-powered radio frequency transmitters . . . in electrical communication with the first and second detectors, said

transmitters . . . wirelessly transmitting signals relative to . . . the detectors, and condition of the batteries . . .

Therefore, Claim 1 requires a first **battery-powered** transmitter to transmit temperature data signals AND a second **battery-powered** transmitter to transmit emissions, power, or level data signals. As shown above, under the combination of the cited art references, AC power from building wiring is utilized to power sensors to monitor and report non-temperature related data back to a central unit. In fact, following the most plausible and thus, proper combination of the teachings of Rein and Benda, an entirely AC powered system would result because Rein expressly teaches at Col. 8, lines 43 - 45 (“[t]he power source 59 can also be a wired connection to an AC power source”), and Benda’s system requires AC power and AC power wiring for transmission. The Examiner’s prior art combination fails to teach a battery-powered transmission system wherein temperature AND at least one other parameter, *e.g.*, pressure, level, and/or emissions are monitored and reported wirelessly, *i.e.*, via battery powered transmitters and/or sensors.

The Examiner asserts:

The Examiner submits that Benda is used to show a teaching that different detectors are being used along with a temperature detector in a building environment to ensure safety is well known in the art and it would have been obvious to one skilled in the art to apply this teaching in the Rein System because Benda’s System would further enhance the comfort along with safety advantages. Benda is combined with Rein for such reason, thus, the combination is proper. **How the Benda systems transmits the signal is irrelevant, this feature is not used in the rejection against the Applicants’ claimed invention.**

(emphasis added)

And the Examiner further asserted:

As the Examiner submitted in the response to argument 1, the wire configuration in Benda would not affect the wireless transmission in Rein because **Benda is used for purpose of providing teaching of different detection in a building.**

(emphasis added)

The above picking and choosing of only parts of the prior art using the claimed invention as a road map is classic improper hindsight. As noted above, the Examiner expressly states, in relation to the claimed “wireless” system, that how the Benda reference transmits a signal with AC powered sensors over the wiring of a building is “irrelevant.” In addition, the Examiner completely ignores Rein’s express suggestion to utilize AC power: “The power source 59 can also be a wired connection to an AC Power source.” (Rein, Col. 8, lines 43-45). As noted above, it is basic patent law that a “prior art reference **must be** considered in its entirety, *i.e.*, as a **whole**, including portions that would lead away from the claimed invention.” MPEP 2141.02.VI *citing W.L. Gore & Associates, Inc. v. Garlock*, 721 F.2d 1540, 220 USPQ 303 (Fed. Civ. 1983), *cert. denied*, 469 U.S. 8551 (1984). (emphasis original and added). The Examiner’s rejection is in complete contravention to basic, well-established patent law. Consequently, the Examiner has not established a *prima facie* case of obviousness in relation to Claims 1-10, 19-21, 23, 25-35, and 38-43. Withdrawal of the rejection is urged.

4. Claims 5, 6, 9, 10 and 32, Dependent on Claim 1, are Nonobvious for Additional Reasons.

In addition, and with respect to Claims 5, 6, 9, 10 and 32 (dependent on Claim 1), Applicants further note that these claims were rejected over Rein/Benda because “900 megahertz spread spectrum transmitters” were “conventional in the art.” In response to Applicant’s second demand under MPEP §2144.03 C for the Examiner to produce documentary evidence supporting the assertion that the use of 900 megahertz transmitters in the Applicant’s claimed system were “conventional in the art” at the time of the present invention, the Examiner cited U.S. Patent No. 5,299,264. It is noted that none of the prior art cited by the Examiner, *i.e.*, neither Rein, Benda, nor Hamm teach the use of a 900 megahertz spread spectrum transmitters.

U.S. Patent No. 5,299,264 is directed to AC powered transmitters for transmitting signals in a high fidelity audio speaker system. (Col. 1, lines 12-16). The Examiner’s citation to U.S. Patent No. 5,299,264 does not establish that battery powered 900 megahertz transmitters were conventional **in the system claimed** at the time of the invention. Obviously, the Applicants are

not asserting they invented 900 megahertz transmitters. Applicants assert they invented using battery powered 900 megahertz transmitters in systems for transmitting data signals between two or more plant locations **relative to detected conditions and/or events in a plant**. Hamm does not disclosure battery powered 900 megahertz transmitters for transmitting signals relative to detected conditions and/or events, *e.g.*, temperatures, pressures, levels, and emissions. The Examiner has not submitted any evidence that the use of a 900 megahertz spread spectrum transmitters, especially battery powered transmitters to transmit signals relative to a detected condition and/or event, were conventional as of the invention date of the presently claimed invention. Applicants request reconsideration and withdrawal of the rejection.

5. Claims 19, 20, 30, and 31, Dependent on Claim 1, are Nonobvious for Additional Reasons.

Claim 19 was rejected on page 7 of the Office Action as obvious over Rein in light of Benda. Claim 19 is directed to the system of Claim 1, **“wherein at least one of the detectors is positioned in communication with a pipe.”** (emphasis added)

Claim 20 was rejected on page 7 of the Office Action as obvious over Rein in light of Benda. Claim 20 is directed to the system of Claim 1, **“wherein at least one of the detectors is positioned in communication with a valve in said plant.”** (emphasis added)

Claim 30 was rejected on page 7 of the Office Action as obvious over Rein in light of Benda. Claim 30 is directed to the system of Claim 1, **“wherein at least one of the detectors is positioned in communication with a pipe enclosure.”** (emphasis added)

Claim 31 was rejected on page 7 of the Office Action as obvious over Rein in light of Benda. Claim 31 is directed to the system of Claim 1, **“wherein at least one of the detectors is positioned in communication with a valve stuffing box enclosure.”** (emphasis added)

As admitted by the Examiner, Rein is directed to monitoring and reporting general air temperatures from a room or office of a building. Rein teaches nothing in regards to a sensor in communication with a pipe, valve, pipe enclosure, or valve stuffing box enclosure. In fact, that would be contrary to Rein’s purpose of monitoring the general air environment to ensure the comfort of workers in an office building. Rein does not teach the monitoring of an industrial

process. Likewise, Benda fails to disclose anything in relation to a detector in communication with a pipe, valve, pipe enclosure, or valve stuffing box enclosure. Benda, like Rein, is focused upon monitoring the general air environment to ensure the safety of workers in that environment and is not concerned with material conditions, *e.g.*, within a pipe or valve stuffing box and thus, discloses nothing in regards to detectors in communication with a pipe or valve stuffing box.

It should also be noted Benda fails to disclose anything in relation to valves, valve stuffing boxes, or pipes. And Benda is not directed to monitoring an industrial process. Benda does not teach or suggest modifying Rein to monitor valves, valve stuffing boxes or pipes because Benda is directed to office buildings and homes. Neither Rein nor Benda are concerned about valves, valve stuffing boxes or pipes because such do not pose air borne safety or health risks to occupants of office buildings or homes. For example, if a water pipe blows, no one dies or is injured. As the Examiner might note, her current building, while including temperature thermostats, does not include devices monitoring pipes, valves, or valve stuffing boxes to insure her safety. **There is no need for such monitoring in office buildings and homes. Consequently, there is no need or motivation in the art, implicitly or explicitly to modify Rein. Moreover, valve stuffing boxes do not even exist in office buildings. Pursuant to MPEP Section 2143.01, the rejection is improper and should be withdrawn. A *prima facie* case of obviousness has not been established.**

And, as set forth above, the combination of Rein and Benda yields an AC powered transmission system which transmits data over AC power lines and Claims 19, 20, 30, and 31, dependent on Claim 1, are directed to, *inter alia*, “at least two battery-powered radio frequency transmitters . . . wirelessly transmitting signals.” The Examiner has failed to establish a *prima facie* case of obviousness. Withdrawal of the rejection and allowance of claims 19, 20, 30, and 31 is requested.

6. **Claims 33, 34, 35, 42 and 43 are Nonobvious over Rein/Benda.**

a. **Claim 33 is Nonobvious.**

Claim 33 (and thus claims 34, 35, and 38 - 43) is (are) directed to, among other things, “a detector . . . operable when voltage from a battery is applied thereto [or a battery powered detector] and monitoring and/or detecting an event or condition in the plant relating to **an enclosed material** in the plant.” (emphasis added) As admitted by the Examiner, Rein is directed to monitoring and reporting of air temperatures from a room in an office building. The Examiner cited Claim 33 claiming “**an enclosure** and/or an enclosed material in the building.” (Office Action , page 5) (emphasis added) It should be noted that Claim 33 was previously amended to eliminate “the relates to an enclosure” language and now specifically claims “an enclosed material in the plant.” (See above.)

Claim 33 is directed to “enclosed materials” not merely an enclosure, which the Examiner equates with a building or a room. Indeed, one of ordinary skill in the art reading the present specification understands the claimed “enclosed materials,” as disclosed in the present specification, includes chemicals, petrochemicals, foods, and oils and gases (page 3, lines 1 - 16) -- not mere air allegedly “enclosed” in a room as disclosed by Rein or Benda. And examples of the “enclosures” in which the “enclosed materials” are enclosed are clearly disclosed in the present specification and include pipes, tanks and valve stuffing boxes (*passim*) -- not a mere room in a building as disclosed by Rein or Benda. **And the Examiner, once again using improper hindsight, ignores the express teachings of the prior art that are in contravention to her obviousness theory. Benda makes a clear distinction between a “building” and an “enclosure.”** Claim 7 of Benda claims:

For a residential or commercial **building** . . . portable environmental remote sensor unit comprising an **enclosure** equipped with a standard pair of electrical prongs whereby the unit can be plugged into any standard electrical outlet . . .

(Benda, Col. 6, lines 48-56) (emphasis added) Consequently, Benda distinguishes between a “building” and an “enclosure.” It is improper to read an “enclosed material” on air existing in an

office of an office building, **especially when the Examiner's own cited art distinguishes between a "building" and an "enclosure."** One of ordinary skill in the art reading the current specification understands the claimed invention is directed to enclosed materials, for example, chemicals, petrochemicals, foods, and oil and gas enclosed in pipes, valves, tanks, or valve stuffing boxes. The Examiner has not established a *prima facie* case of obviousness and asserts the correct (previously amended) language of Claim 33 (and hence Claims 34, 35, and 38 - 43) distinguishes over Rein's/Benda's office building room air temperature monitoring system.

b. Claims 34, 35, 42 and 43 are Nonobvious.

Claim 34 is directed to the system according to Claim 33, "wherein the enclosed material **is enclosed in a pipe.**" (emphasis added) Claim 34 was rejected on page 7 of the Examiner's rejection over Rein in view of Benda.

Claim 35 is directed to the system according to Claim 33, "wherein the enclosed material **is enclosed in a valve stuffing box.**" (emphasis added)

Claim 42 is directed to the system according to Claim 33, "**wherein the detector monitors and/or detects emissions from an enclosure.**" (emphasis added) Claim 42 was rejected on page 7 of the Examiner's rejection over Rein in view of Benda.

Claims 34, 35 and 42 are patentable over the cited art for the same reasons set forth above in relation to Claim 33, from which they depend. In addition, Claims 34, 35, and 42 directed to monitoring a material enclosed in a pipe, a valve stuffing box, or an enclosure patentable over Rein/Benda because the cited art teaches nothing in regards to monitoring a material in an "enclosure," like a pipe or valve stuffing box. Moreover, Benda distinguishes between a "building" and an "enclosure" and thus, the Examiner's rejection equating a "building" with an "enclosure" is contrary to the very art relied upon by the Examiner. Withdrawal of the rejection is requested.

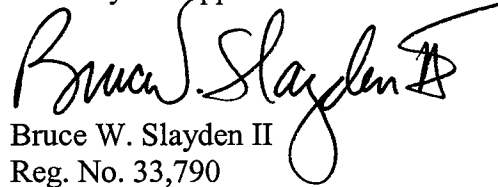
CONCLUSION

Applicants have now made an earnest effort to place this case in condition for allowance in light of the amendments and remarks set forth above. Applicants respectfully request reconsideration of Claims 1-10, 19-21, 23-35, 38-43 as previously submitted.

Applicants believe there are no fees due at this time, however, the Commissioner is hereby authorized to charge any fees necessary or credit any overpayment to Deposit Account No. 50-2148 of Baker Botts L.L.P.

If there are any matters concerning this Application that may be cleared up in a telephone conversation, please contact Applicants' attorney at 512.322.2606.

Respectfully submitted,
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